FUFRYANSKIY, N.A., prof., red.; RAKHMATULIN, M.D., inzh., red.; BOBROVA, Ye.N., tekhn.red.

[Construction and operation of gas generator locomotives] Opyt sozdaniia i ekspluatatsii gazogeneratornykh teplovozov. Moskva, Vses. izd-vo poligr. ob"edinenie m-va putei soob., 1960. 129 p. (Moscow. Vsesoiuznyi nauchno-issledovatel'skii institut zheleznodorozhnogo transporta. Trudy, no.191). (MIRA 13:10)

1. Rukovoditel' otdeleniya teplovozov i lokomotivnogo khozyaystva Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodorozhnogo transporta (for Fufryanskiy).
(Locomotives)

D

FUFRYANSKIY, N.A., doktor tekhn.nauk prof.

United States railroads. Vest.TSNII MPS 19 no.2:59-62 '60. (MIRA 13:6)
(United States--Railroads)

FUFRYANSKIY, N.A., prof.; POYDA, A.A., prof.; YEGUNOV, P.M., kand.tekhn.nauk, starshiy nauchnyy sotrudnik

High-temperature cooling of diesel locomotive engines. Elek. i tepl.tiaga no.8:42-44 Ag '63. (MIRA 16:9)

1. Rukovoditel' otdeleniya teplovozov i lokomotivnogo khozyaystva Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodorozhnogo transporta Ministerstva putey soobshcheniya (for Fufryanskiy).
2. Vsesoyuznyy zaochnyy institut inzhenerov transporta (for Poyda).
3. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta Ministerstva putey soobshcheniya (for Yegunov).
(Diesel locomotives--Cooling)

FUFRYANSKIY, M.A., prof., doktor tekhn. nauk

What type of locomotives should be chosen for the future?
Zhel. dor. transp. 45 no.4:51-57 Ap '63.
(MIRA 16:4)

(Locomotives)

3

L 2069-66 EWT(d)/EWP(t)/EWP(v)/T/EWP(k)/EWP(h)/EWP(l)
ACCESSION NR: AP5026356 UR/0105/64/000/009/0093/0093

AUTHOR: Yefremov, I. S.; Minov, D. K.; Petrov, I. I.; Rosenfel'd, V. Ye; Svenchanskiy, A. D.; Sokolov, M. M.; Fufryanskiy, N. A.; Chilikin, M. G.

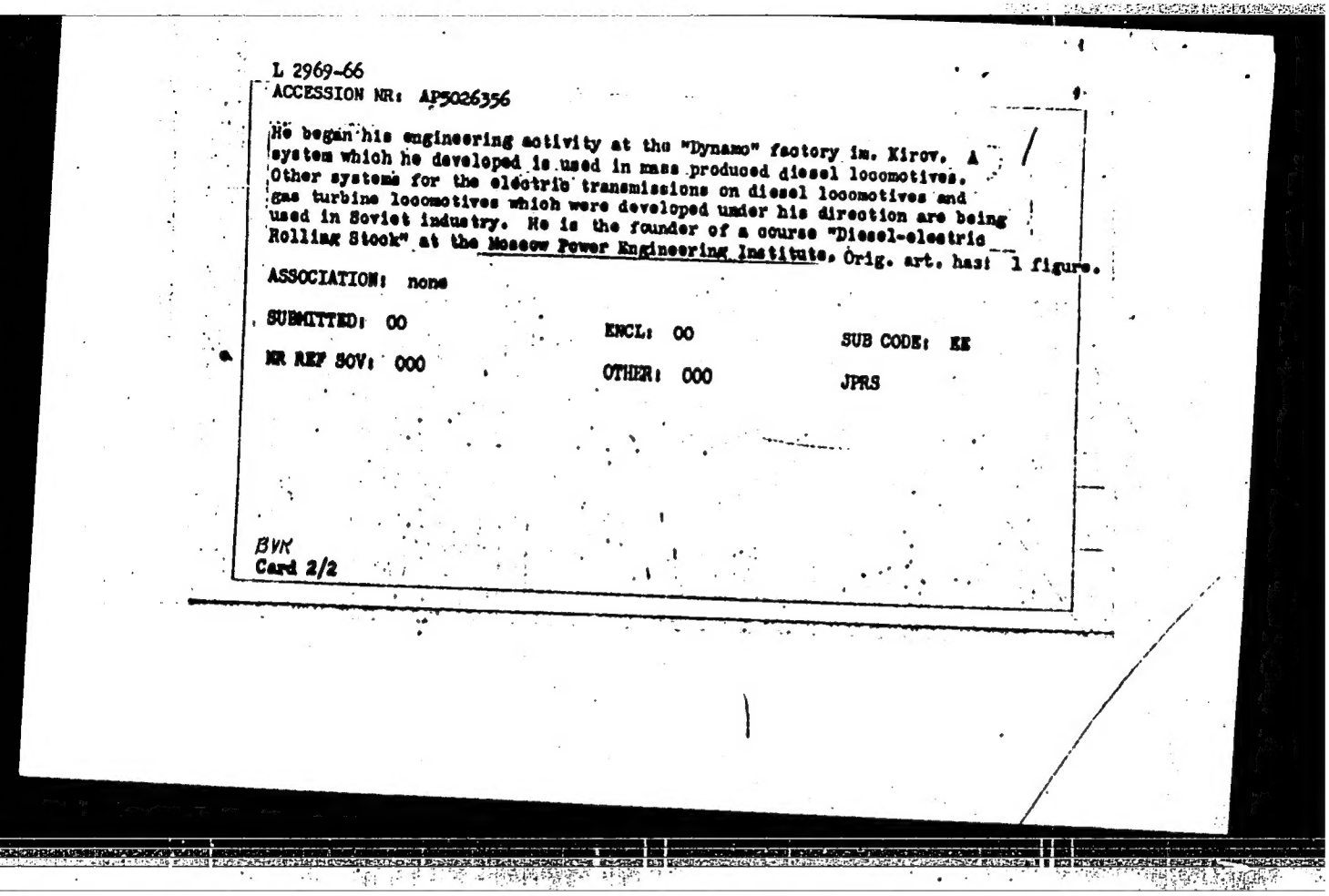
TITLE: Aleksandr Dmitriyevich Stepanov on his 60th birthday

SOURCE: Elektrichestvo, no. 9, 1964, 93

TOPIC TAGS: electric engineering personnel

ABSTRACT: A. D. Stepanov, Professor in the Department of "Electrical Transportation" of the Moscow Power Engineering Institute and prominent specialist in the field of diesel and gas turbine transportation, had his sixtieth birthday this year. His interest for the past 35 years has been in the field of automation of transportation equipment. Among the great number of printed works by Professor Stepanov, his books "Diesel-electric Drive for Transportation Equipment" and "Ways for Increasing the Efficiency of Diesels and Gas Turbine Locomotives" deserve special attention along with a number of books on diesels written by him in co-authorship with workers in industry and transport. He has just published a new book, "Automatic Power Control of Diesel and Gas-Turbine Locomotives."

Card 1/2



L 2969-66
ACCESSION NR: AP5026356

He began his engineering activity at the "Dynamo" factory im. Kirov. A system which he developed is used in mass produced diesel locomotives. Other systems for the electric transmissions on diesel locomotives and gas turbine locomotives which were developed under his direction are being used in Soviet industry. He is the founder of a course "Diesel-electric Rolling Stock" at the Moscow Power Engineering Institute. Orig. art. has: 1 figure.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: EE

NR REF SOV: 000 OTHER: 000 JPRS

BVK
Card 2/2

FUFRYANSKIY, N.A., prof., doktor tekhn.nauk; ZELENETSKAYA, I.S., kand.tekhn. nauk; VOLODIN, A.I., kand.tekhn.nauk; SEVAST'YANOV, S.I., kand.tekhn.nauk

Quality of fuel and oil for locomotive diesels. Zhel.dor.transp. 46 no.11:40-43 N '64. (MIRA 18:1)

FUFRYANSKIY, N.A., prof., doktor tekhn.nauk

For the confort of the passengers. Zhel.dor.transp. 47 no.4:35-36 Ap '65.

The technical standards of Soviet locomotives. Ibid.:37-38

(MIRA 18:6)

FUFRYANSKIY, N.A., doktor tekhn. nauk; GUREVICH, A.N., kand. tekhn. nauk; YEGUNOV, P.M., kand. tekhn. nauk; POPOV, G.V., kand. tekhn. nauk; STROMSKIY, P.P., kand. tekhn. nauk

Results of traction and heat engine tests of series TG102 diesel locomotives. Vest. TSNII MPS 25 no.1:16-23 '66.

(MIRA 19:2)

SA FUFURIN, N.P.
Sect. B

Transformers

621.314.2.046 : 621.317.333

3994. Methods of control of moisture in transformer insulation. N. P. FUFURIN. *Elekt. St.*, No. 1, 36–40 (1952) *In Russian.*

Measurements were made on transformers of 50 to 1800 kVA, at 2·6–10 kV, 10 to 30°C, of capacitances at 2 and 50 c/s. The ratio of these capacitances increases with temperature and with moisture content of the insulation, but is little affected by quality of oil or by sludge. The higher this ratio the more the insulation resistance increases with drying and the lower the insulation resistance on overheating. The method is applicable only to equipment with capacitance of over 1000 pF. This ratio is the same for a dry and oil-immersed transformer. J. ŁUKASZEWICZ

1. LUKIN, N. N., ENG., FUFURIN, N. P., ENG.

2. USSR (600)

4. Electric Insulators and Insulation

7. Effect of moistening upon the electric insulation capacity of a generator. Elek. sta. 23, no. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

LINDORF, L.A.; FUFURIN, N.P.; ULITSKIY, M.S.; USTINOV, P.I.; ZEYLIDZON, Ye.D.; MIKIN, G.P.; KOTS, A.Ya.; KHAVIN, N.Z.; MURAVLEVA, N.V.; LIBERMAN, A.Ya.; BARANOV, B.M.; ZVENIGORODSKIY, I.S.; IVANOV, V.S.; IOFFE, F.Ye. [deceased]; BURLAKOV, B.M.; MIRENBURG, L.A. [deceased]; FAYERMAN, A.L., red.

[Aid for studying engineering regulations governing the operation of electric power plants and networks] Posobie dlia izucheniia pravil tekhnicheskoi ekspluatatsii elektricheskikh stantsii i setei. Izd.2., peresmotrennoe. Moskva, Energiia, 1965. 551 p. (MIRA 18:6)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy proizvodstvennyy komitet po energetike i elektrifikatsii.

LINDORF, L.S.; FUFURIN, P.N.; ULITSKIY, M.S.; USTINOV, P.I.; ZEYLIDZON, Ye.D.; MININ, G.P.; KOTS, A.Ya.; KHAVIN, N.Z.; MURAVLEVA, N.V.; LIBERMAN, A.Ya.; BARANOV, B.M.; ZVENIGORODSKIY, I.S.; IVANOV, V.S.; IOFFE, F.Ye.; BURLAKOV, B.M.; MIRENBURG, L.A.; FAYERMAN, A.L., red.; BORUNOV, N.I., tekhn. red.

[Study manual on the technical operation of electric networks and power plants; electrical section of electric power plants and electric power distribution networks]Posobie dlia izucheniia pravil tekhnicheskoi ekspluatatsii elektricheskikh stantsii i setei; elektricheskaia chast' elektrostantsii i elektricheskie seti. Moskva, Gosenergoizdat, 1962. 558 p. (MIRA 15:8)

(Electric power plants—Handbooks, manuals, etc.)
(Electric power distribution—Handbooks, manuals, etc.)

FUGA, A., dotsent.

Companion cropping. Nauka i perod.op.v sel'khoz. 7 no.7:95 Jl '57.
(MLRA 10:8)

1.Odesskiy sel'skokhozyaystvennyy institut.
(Companion crops)

FUGA, N. A.

Category: USSR/Analytical Chemistry - General Questions. G-1

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 30946

Author : Zakhariya N. F., Fuga N.A., Leyderman Ts. A.
Inst : not given
Title : Use of Chemical Reactions in Processes of Spectral Analysis

Orig Pub: Zavod. laboratoriya, 1956, 22, No 11, 1303-1306

Abstract: To eliminate the effect of composition and enhance the sensitivity of the analysis use is made of carbonization (C) and halogenation (H). C is used in determination of admixtures in oxides of high melting metals, to bind the base (spectrography is applied to the stage of evaporation of oxides) and in the determination of carbide-forming elements in ores and minerals for a preliminary driving off of admixtures (spectrography of the stage of carbide combustion). The reactions take place in an arc of direct or alternating current during evaporation of mixtures with coal powder, from carbon electrodes. H is used in the determination of

Card : 1/2 -19-

N. A. Fuga

24(7) PHASE I BOOK EXPLOITATION SOV/1700

L'vov. Universitet

Materialy X Vsesoyuznogo soveshchaniya po spektroskopii, 1956. t. II: Atomnaya spektroskopiya (Materials of the 10th All-Union Conference on Spectroscopy, 1956. Vol 2: Atomic Spectroscopy) [L'vov] Izd-vo L'vovskogo univ., 1958. 568 p. (Series: Its: Fizicheskiy sbornik, vyp. 4(9)) 3,000 copies printed.

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii.

Editorial Board: G.S. Landsberg, Academician, (Resp. Ed.); B.S. Neporent, Doctor of Physical and Mathematical Sciences; I.L. Fabelinskiy, Doctor of Physical and Mathematical Sciences; V.A. Fabrikant, Doctor of Physical and Mathematical Sciences; V.G. Koritskiy, Candidate of Technical Sciences; S.M. Rayskiy, Candidate of Physical and Technical Sciences; L.K. Klimovskaya, Candidate of Physical and Mathematical Sciences; V.S. Miliyanchuk (Deceased), Doctor of Physical and Mathematical Sciences; A.Ye. Glauberman, Doctor of Physical and Mathematical Sciences; Ed.: S.L. Gazer; Tech. Ed.: T.V. Saranyuk.

PURPOSE: This book is intended for scientists and researchers in the field of spectroscopy, as well as for technical personnel using spectrum analysis in various industries.

COVERAGE: This volume contains 177 scientific and technical studies of atomic spectrography presented at the 10th All-Union Conference on Spectroscopy in 1956. The studies were carried out by members of scientific and technical institutes and include extensive bibliographies of Soviet and other sources. The studies cover many phases of spectroscopy: spectra of rare earths, electromagnetic radiation, physicochemical methods for controlling uranium production, physics and technology of gas discharge, optics and spectroscopy, abnormal dispersion in metal vapors, spectroscopy and the combustion theory, spectrum analysis of ores and minerals, photographic methods for quantitative spectrum analysis of metals and alloys, spectral determination of the hydrogen content of metals by means of isotopes, tables, and atlases of spectral lines, spark spectrographic analysis, statistical study of variation in the parameters of calibration curves, determination of traces of metals, spectrum analysis in metallurgy, thermochemistry in metallurgy, and principles and practice of spectrochemical analysis.

Card 2/31

Card 20/31

Kugan, N. N.

PHASE I BOOK EXPLOITATION SOV/4443

Akademiya nauk SSSR. Komissiya po analiticheskoy khimii

Metody opredeleniya primesey v chistykh metallakh (Methods of Determining Admixtures in Pure Metals) Moscow, 1960. 411 p. (Series: Its: Trudy, 12) 3,500 copies printed.

Resp. Eds.: A.P. Vinogradov, Academician, and D.I. Ryabchikov, Doctor of Chemical Sciences; Ed. of Publishing House: M.P. Volynets; Tech. Ed.: T.V. Polyakova.

PURPOSE: This collection of articles is intended for chemists, metallurgists, and engineers.

COVERAGE: The articles describe methods for detecting and determining various admixtures and their traces in pure metals. Also discussed are many chemical, physicochemical, electrochemical, spectrochemical and luminescence methods of analyzing materials of high purity. The editors state that these methods have been developed within the last five or six years by various Soviet scientific institutes, and are now widely used in research and factory laboratories of the Soviet Union. No personalities are mentioned. References, mostly Soviet, accompany each article.

Card 1/9

ZAKHARIYA, N.F.; FUGA, N.A.

Spectrum determination of impurities in hafnium. Trudy Kom. anal. khim. 12:166-171 '60. (MIRA 13:8)
(Hafnium--Analysis) (Spectrum analysis)

S/048/63/027/001/002/043
B163/B180

AUTHORS: Zakhariya, N. F., Turulina, O. P., and Fuga, N. A.

TITLE: Investigation of the thermochemical processes in spectroscopic analysis

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v.27, no. 1, 1963, 4-5

TEXT: Mixtures containing ZrO_2, oxides of impurity elements and halides of Cu and Ag and mixtures in which the basic components were oxides of other rare elements such as Nb, Hf, and Ta, were heated to 800 - 2300°K. The residue, in some cases the sublimate, was quantitatively analyzed and the temperature dependence of reaction and sublimation rates determined, as also the most probable reaction process. Thermodynamic calculations were made and the kinetics studied. The interaction of impurities with a reactant depends on the formation of compounds with the basic component and the probability and thermal stability of such compounds depend on the intensity of the cation field of the oxides. For the halogenization of stable compounds the cation radii of the expelled element and the

Card 1/4

reactant must be similar. Besides decomposition of complex compounds into component oxides, at high temperatures all oxides are either reduced to the metal or to lower valence oxides. Interaction mechanisms differ for different multivalent oxides, e. g. Fe_2O_3 reacts with AgCl to form $FeCl_3$, and Cr_2O_3 forms Ag_2CrO_4 at low temperatures while at higher temperatures, the metals or lower oxides interact with the reactant. The best reactants are halides with low vapor tension which persist in the specimen even at high temperatures. The temperature dependence of the free energy of the reaction

$$(Me_nO_m + 2mAgCl + mC \rightleftarrows n MeCl_{\frac{2m}{n}} + 2mAg + mCO)$$

is given in Fig. 2. It shows that chlorination reactions are excellent for the expulsion, and consequently the spectroscopic determination, of elements to the left of the periodic system. This paper was presented at the 14th Conference on Spectroscopy in Gor'kiy, July 5-12, 1961. There are 2 figures.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii Akademii nauk USSR (Institute of General and Inorganic Chemistry of the Academy of Sciences UkrSSR)

Fig. 2. Variation of free reaction energy ΔF^0 on temperature. "n" and "k" are the melting point and boiling point of the chlorides.

Legend: (1) ΔF^0, kcal g-equiv^{-1} of the chloride
(2) T_B, boiling point of AgCl, 1823°K

Card 3/4

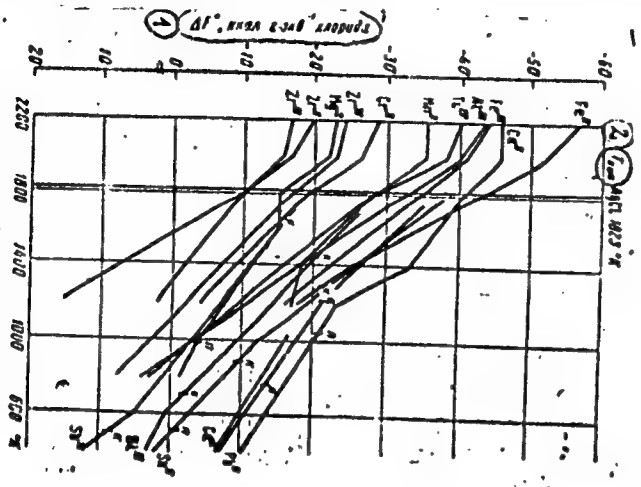


Fig. 2

20367

9,4300 (1158, 1137, 1147)

R/004/61/000/004/001/001
D014/D106

AUTHORS: Fugaru, Constantin, Metallurgical Researcher, and Ivaşcu, Vasile, Engineer, Principal Chemical Researcher, (Bucharest)

TITLE: Production of oxide magnets based on barium ferrite and lead

PERIODICAL: Electrotehnica, no. 4, 1961, 124-129

TEXT: The article briefly describes some experiments conducted to obtain a high-quality oxide magnet based on barium ferrite and lead. During the last few years, many studies were conducted with the Fe_2O_3 - BaO - PbO compound system, to find a material having some magnetic properties similar to those of oxide magnets based on barium ferrite with a $(BH)_{max}$ energy of $8 \cdot 10^3$ γ/m^3 ($1 \cdot 10^6$ Gsöe). Magnetoplumbite, PbO $6Fe_2O_3$, is a ferromagnetic compound similar to barium ferrite. The PbO - Fe_2O_3 system was studied by E. Kohlmeyer (Ref 1: Studiul fazelor în sistemul PbO - Fe_2O_3. Metall und Erz, 1, 1913, 483 - 491), who established the phases which are produced by different treat-

Card 1/20

20367
R/004/61/000/004/001/C01
D014/D106

Production of oxide magnets based on barium ferrite and lead

ments. Pawlek (Ref. 2: W. Berger, F. Pawlek: Cercetări cristalografice şi magnetice în sistemul PbO - Fe_2O_3. Archiv für das Eisenhüttenwesen, 2, 195 (?), febr. 101 - 108) has studied the compositions where the most favorable values of the magnetic parameters appear. [Abstracter's note: the last digit of the year mentioned in Ref 2 is illegible]. Magnetoplumbite as well as barium ferrite are ferromagnetics which present values very close to the magnetic saturation moment, which is due to their isomorphism and the slight difference between the Ba^{2+} and Pb^{2+} ion rays (1.43 and 1.32). It can be assumed that the solid solutions of these two combinations will also be ferromagnetic, giving relatively high values of the magnetic saturation moment and of the constant K of the magnetocrystalline anisotropy. The formation of barium ferrite from Fe and Ba oxides is accomplished more rapidly at temperatures over 950°C. Magnetoplumbite begins forming at a temperature of 825°C. It can be assumed that the barium ferrite formation rate will increase if the chemical reaction and the sintering are accomplished together with lead oxide. If $\frac{PbO}{Fe_2O_3} < 1.5$,

Card 2/ 20

Production of oxide magnets based on barium ferrite and lead

the phase is formed at 825°C at an increased reaction rate. By the diffusion of barium and lead ions, a mixed ferrite is obtained with determined magnetic properties. In the investigations, the $\frac{PbO}{Fe_2O_3}$ molar ratio gradually increased up to approximately 1/10, suggesting that magnetoplumbite is formed at temperatures higher than 825°C, accelerating the formation of barium ferrite. The experiments included production of some samples of materials having the chemical composition shown in table 1, magnetic measurings and microscopic study of the samples produced. The PbO content of the samples varied between 1 and 10% in weight. The following raw materials were used: Industrial red iron oxide with a content of Fe_2O_3 94%, humidity 1.4%, P. C. 3.6%, insolubles 0.3%, S 0.7%; industrial barium carbonate, BaO 76%, CaO 0.6%, Na_2O 0.4%, SO_3 0.7%, P. C. 22.3%; minium of lead, grade I- a, PbO 95.4%. The samples were prepared as follows: the raw materials were mixed for 24 hrs in a ball mill together with an equal quantity

20367

R/004/61/000/004/001/001
D014/D106

Production of oxide magnets based on barium ferrite and lead

of water and steel balls. The mixed material was then filtered and dried in a drying chamber. The dried powder samples designated with no.I were subjected to a preliminary heat treatment (pre-sintering) for 2 hrs at 950°C, whereas the samples designated with no. II were subjected to a preliminary heat treatment for 4 hrs. The ferrite obtained was ground for 48 hrs in a ball mill together with the same quantity of water and steel balls. The resulting fine ferrite powder was mixed with 4 - 8% of cellulose trimethyl or polyvinyl alcohol and compressed with a pressure of 0.8 t/cm into cylindrical shapes 16 mm in diameter and weighing 10 g each. Having been dried, the samples were subjected to a sintering process at a temperature of 1,100°C in case of the "a" index and at 1,150°C in case of the "b" index. The samples were kept for ½, 1, and 2 hrs in the furnace. The temperature was increased at a rate of 200°C per hr, whereas the cooling was accomplished at 300°C per hr. The dimensions, the density and the magnetic performances [Br, Hc, $(BH)_{max}$] of the samples were determined. The magnetic performances were determined with a Neumann double-yoke permeameter, made by the ICET. [Abstracter's note: the abbreviation ICET

Card 4/20

R/004/61/000/004/001/001
D014/D106

Production of oxide magnets based on barium ferrite and lead

is not explained7. The values obtained for different samples are compiled in tables 2 - 5. The mixed barium and lead ferrite, after the preliminary sintering for 2 and 4 hrs at 950°C, showed an increase in density in relation to an increase of the PbO content as well as to the duration of the maximum temperature level. According to fig 2, this increase can practically be considered to be linear. Figures 2 - 7 show the influence of the variation in PbO content between 3 and 10%, the duration of the preliminary heat treatment, the maximum temperature, and the duration of this temperature level on the final density of the sample. The final density is not considerably increased if the PbO content exceeds 6%. Similarly, an increase in the maximum temperature or the time above the limits shown in the graphs in fig 2 - 7, does not lead to an improvement in the final density. The influence of the heat treatment on the magnetic performances of different types of samples is shown in figures 8 - 11. Samples having a PbO content of 1% were eliminated because of their very low magnetic performance. The materials having a PbO content of 3% showed a weak reaction after the preliminary

Card 5/20

20367

R/004/61/000/004/001/001
D014/D106

Production of oxide magnets based on barium ferrite and lead

heat treatment. Samples with a PbO content between 4.5 and 6%, led to an activation of the pre-sintering process in relation to an increase of the PbO content resulting in a well reacted material of high density. In the final heat treatment this material showed crystal growth as much slower as the sintering process was more advanced in the preliminary heat treatment. Samples with a PbO content of 6% presented a $(0.8 - 0.9) \cdot 10^{6}$(?) GsÖe value of magnetic energy in great temperature and time intervals. An increase in PbO content to 10%, led in the final heat treatment to an increase of the crystal growth rate and thus to a reduction of the magnetic performances. Before the structural analysis, the samples were polished with a special device for polishing silicon plates used in the manufacture of semiconductors. Satisfactory results in proving the hexagonal structure of the barium ferrite were achieved by using the following etching method: HCl 10%, HNO_3 5%, temperature 60°C, time 1 min. on the basis of structural analysis, the authors established in samples sintered at 1,100°C a $(BH)_{max}$ energy of $0.8 - 0.9 \cdot 10^{6}$ GsÖe. The crystalline barium ferrite particles of the material sintered at 1,100°C for

Card 6/20

20367
R/004/61/000/004/001/001
D014/D106

Production of oxide magnets based on barium ferrite and lead

1 hr had a size of 5 - 10 μ, and of the material sintered at 1,150°C for 2 hrs a size of 10 - 50 μ, but a lower magnetic energy, i.e. $4 - 5 \cdot 10^3$ γ/m^3 ($0.5 - 0.6 \cdot 10^6$ Gsöe). On the basis of these experiments the authors came to the conclusion that the magnetic material requires a preliminary and a final heat treatment at temperatures which are lower than those applied to simple barium ferrite. This magnetic material can be used industrially with some technological and economic advantages. There are 14 figures, 5 tables, and 4 references: 2 Soviet-bloc and 2 non-Soviet-bloc.

ASSOCIATION: ICET

SUBMITTED: December 15, 1960

Card 7/20

FUGARU, Constantin, ing. (Bucuresti); BARBU, Ion, ing. (Bucuresti)

Sintering contact technology used in low tension apparatus. Electrotehnica 9 no.10:367-371 O '61.

1. Cercetator metalurg la Institutul de Cercetari Electrotehnice (for Fugaru). 2. Cercetator electrotehnician la Institutul de Cercetari Electrotehnice (for Barbu).

FUGARU, Constantin, ing. principal metalurgist (Bucuresti); NISTOR, Gheorghe, cercetator (Bucuresti)

Thermal treatment of siliceous cold rolled sheets with small losses, used in the electrotechnical industry. Electrotehnica 10 no.11:411-419 N '62.

1. Institutul de Cercetari Electrotehnice.

FUGARU, C.

Youth work protection in Rumanian legislation. Munca sindic [7] no.1:54-55 Ja '63.

FUGARU, C.

On the supplementary vacation for uninterrupted length of service; consultation. Munca sindic 7 no.6:52-54 Je '63.

FUGAS, M.

13

Environmental conditions in the mercury mine of Idria. V. B. Vouk, M. Fugaš, and Z. Topolnik (Inst. Ind. Hyg., Zagreb, Yugoslavia). *Brit. J. Ind. Med.* 7, 168-76 (1950).—In the Idria mines of Yugoslavia, Hg occurs as cinnabar (HgS, I) and as native quicksilver (II). The av. Hg content of the ore is 0.7%. Mining II is one of the most dangerous occupations in Idria. Where I alone is dug, there is no hazard because of its slight soly. Hg poisoning hazards arise during roasting of the ore and during filling steel bottles with Hg for transport. During 1946-1950, there were 27-93 cases annually of subacute, chronic, or chronic-stationary Hg poisoning. Hg concns. in mg./cu. m. were 0.05-5.0 in a pit where I was won, 0.05-0.50 in a pit where II occurred beside I, and 0.17-1.1 in the smelting plant. Existing and recommended protective measures are described.

Marion Horn Peskin

1951

YUGOSLAVIA

FUGAS, Mirka; GEITILIZZA, Hirjana; VALIC, F. and VERHOVNIK, S.; Institute for Medical Research and Occupational Medicine (Institut za medicinska istrazivanja i medicinu rada,) Zagreb.

"Air Pollution Studies and Atmospheric Sediment Analysis in the City of Zagreb."

Zagreb, Arhiv za Higijenu Rada i Toksikologiju, Vol 16, No 3, 1965; pp 215-226.

Abstract [English summary modified] : Review of one year's data* on air pollution monitoring in Zagreb reveals that the city is one of the most heavily polluted industrial cities in Europe at this time. Presentation of data on types of atmospheric impurities, correlations with meteorological conditions and seasons of year. Plan, photograph, 3 tables, 5 graphs; 1 Yugoslav and 7 Western ref's; ms rec 30 Jan 65.

*1 Apr 1962 - 31 Mar 1963

1/1

FUGAS, Mirka; GEITILIZZA, Hirjana; VALIC, F. and VERHOVNIK, S.; Institute for Medical Research and Occupational Medicine (Institut za medicinska istrazivanja i medicinu rada,) Zagreb.

"Air Pollution Studies in the City of Zagreb. Part Two. Determination of Concentrations of Sulfur Dioxide and Smoke."

Zagreb, Arhiv za Higijenu Rada i Toksikologiju, Vol 16, No 3, 1965; pp 227-249.

Abstract [English summary modified]: Data on SO_2 and smoke concentrations in Zagreb as measured daily for 12 months at 4 locations. Domestic heating furnaces were most culpable and caused extremely heavy pollution especially during winter time, suggesting the great potential value of centralized furnaces by block rather than old individual building system. Map, tables, 10 graphs; 1 Yugoslav and 11 Western references; ms rec 30 Jan 65.

1/1

FUGAS, Mirka; JENCEK, L.

Film dosimetry of X- and gamma-rays. Arch.hig.rada 10 no.4:353-359 '59.

1. Institut za medicinska istrazivanja i medicinu rada u Zagrebu i Fizikalni institut Medicinskog fakulteta, Sveucilista u Ljubljani
(RADIOMETRY)

FUGAS, Mirka

Determination of nitrogen dioxide in the air. Arh. hig. rada 13 no.3: 207-229 '62.

1. Institut za medicinska istrazivanija i medicinu rada, Zagreb.
(NITROGEN) (AIR POLLUTION)

5

FUGAS, Mirka; HARMUT, Magda

Influence of latent image fading in the estimation of gamma-ray exposure by a film-dosimetric method. Arh hig rada 11 no.2:107-115 '60.

1. Institut za medicinska istrazivanja i medicinu rada, Zagreb.

(RADIOMETRY)

FUGAS, Mirka

Visual estimation of color intensity. Application of a colorimetric method in the determination of the concentration of air contaminants. Arh. rig. rada 15 no.1:27-46 '64.

1. Institut za medicinska istrazivanja i medicinu rada, Zagreb.

YUGOSLAVIA

Mirka FUGAS, Institute for Medical Research and Occupational Medicine (Institut za medicinska istrazivanja i medicinu rada), Zagreb.

"Determination of Atmospheric Nitrogen Dioxide."

Zagreb, Arhiv za Higijenu Rada i Toksikologiju, Vol 13, No 3, 1962; pp 207-229.

Abstract [English summary modified] : Study of factors (reagent stability, time course of dye formation and decomposition, role of light and of temperature, effectiveness at various concentrations of NO_2) with various types of rinsing recipients and impingers. A method combining several techniques and reagents previously described in the Western literature is considered best, accurate and reliable for a wide concentration range (0.005 to 1000+ ppm). Two tables, 9 diagrams; 2 Yugoslav 2 Soviet and 17 Western references.

1/1

1. PRESS, S. A. Prof., FUGENFIROV, M. I.

2. USSR (600)

4. Electric Engineering

7. "General electrical engineering." Edited by Prof. S. A. Press. Reviewed by M. I. Fugenfirov. Elektrichestvo No. 3, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

FUGENFIROV, M.I., inzh.

Remarks on the draft of new government standards for ordinary incandescent lamps. Svetotekhnika 6 no.3:17-19 Mr '60. (MIRA 13:6)

1. Vsesoyuznyy svetotekhnicheskiy institut.
(Electric lamps, Incandescent—Standards)

FUGENFIROV, M.I.; ZHURAVLEV, P.N.

Plan of research, experimental and design work in power and electric engineering for 1963. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.-nauch.i tekh.inform. no.11:88-90 '62. (MIRA 15:11)
(Electric engineering) (Power engineering)

FUGENFIROV, M.I.

Technical progress in power engineering and electric equipment in the R.S.F.S.R. Biul.tekh.-ekon.Gos.nauch.-issl.inst.nauch.i tekh.inform. 18 no.1:40-43 Ja '65.

(MIRA 18:4)

FUGENFIROV, M.I.

Substituting nickel electrodes in incandescent lamps. Biul. tekh.-ekon. inform. Gos. nauch.-issl. inst. nauch. i tekh. inform. 18 no.2:45-46 F '65. (MIRA 18:5)

PUGACHEV?, M. I.

Characteristics of filament lamps with [illegible] ...tekh.-ekon. Inform. Gos. nauch.-issl. inst. nauch. [illegible] ... 71-73 Ap '65. [illegible] (MIRA [illegible])

FUGEL'ZANG, N. F.

Posobie po sostavieniiu promfinplana derevoobrabatyvaiushchego predpriiatiia. Moskva, Gos. izd-vo stroit. lit-ry, 1950. 75 p. forms. (Biblioteka stroitelia po voprosam ekonomiki i planirovaniia)

Working out the industrial and financial plan of a woodworking industry.

DLC: HD9715.R92F8

SO: Manufacturing and Mechanical Engineering in the Soviet Union. Library of Congress, 1953.

L 25303-65 EWT(m)/T/EWP(t)/EWP(b) IJP(c) JD

ACCESSION NR: AP5005386 S/0193/65/000/001/0040/0043

AUTHOR: Fugenfirov, M. I.

TITLE: Technical progress in power and electrical engineering in the RSFSR

SOURCE: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 1, 1965, 40-43

TOPIC TAGS: heat treating furnace, vacuum furnace, arc furnace, vacuum arc furnace, titanium melting furnace, steel melting furnace

ABSTRACT: In the RSFSR during 1964-1965, it is planned to develop and build more than 20 types of electric furnaces, including a vacuum, heat-treating furnace 2500 mm in diameter and 4500 mm deep. Consumable-electrode, vacuum-arc furnaces for casting titanium alloy ingots weighing 6, 12, 21, and 30 tons are already in the design stage. Similar furnaces for casting steel ingots weighing 6, 10, and 37 tons are under construction. [DV]

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: IE, EE

NO REF SOV: 000 OTHER: 000 ATD PRESS: 3184

Card 1/1

AUTHORS: Fuger, I., Cabell, M.I. SOV/89-4-6-24/30

TITLE: The Ion-Exchange Behavior and the Dissociation Constants of the Complexes of Americium, Curium and Californium With Ethylenediaminetetraacetic Acid (1) (Ionoobmennoye povedeniye i konstanty dissotsiatsii kompleksov ameritsiya, kyuriya i kaliforniya s etilendiamintetrauksusnoy kislotoy (1))

PERIODICAL: Atomnaya energiya, 1958, Vol 4, Nr 6, pp. 602-603 (USSR)

ABSTRACT: This is a short review of 2 papers published in: J.Inorg.Nucl. Chem. 1958, Vol 5, Nr 4, p. 332 and Analyst, 1952, Vol 77, p. 859. (Reviewer: V.P.). There are 2 references.

1. Complex compounds--Chemical reactions 2. Ion exchange --Analysis 3. Americium--Properties 4. Californium --Properties 5. Curium--Properties 6. Acetic ancid --Properties

Card 1/1

FUGLEWICZ, ROMAN Poland CA: 47:12136

Chemia analityczna jakosciowa.

Warsaw: Panstwowe Wydawnictwa Tech. 1952. 336 pp.

Reviewed in Wiadomosci Chem. 7, 381-2 (1953).

FUGNEROVA M. K nasi zdravotne vychovne praci mediku, Health-Educational work of the medical profession, Zdravotnicka Revue, Prague 1949, 24/11 (238)

So: Medical Microbiology and Hygiene, Section IV, Vol 3, No 1-6

FUGNEROVA, M.

Health education. Zdravot.rev. 25 no.12:316;passim. Dec 50.
(CIML 20:5)

FUGNEROVA, M.

Health education in medical institutions. Cesk. nemoc. 19 no.6-7: 86-89 June-Sept 1951. (CLML 23:2)

FUGOL', O.M. [Fuhol', O.M.]

Course of restorative processes in animals with various types of the higher nervous activity. Fiziol. zhur. [Ukr.] 7 no.1:19-23 Ja-F '61. (MIRA 14:1)

1. Kafedra normal'noy fiziologii Khar'kovskogo meditsinskogo stomatologicheskogo instituta.
(NERVOUS SYSTEM)

FUGOL', I.Ya.; SHUL'GA, S.Z.

Polarized luminescence and absorption of weak long wavelength in anthracene at T = 20° K. Opt. i spektr. 5 no.1:34-38 Jl '58. (MIRA 11:8)

1. Institut fiziki AN USSR.
(Anthracene) (Luminescence) (Polarization (Light))

FUGOL', I.Ya. [Fuhol', I.IA.]

Absorption and luminescence of crystalline solutions stilbene in tolan at 20° K [in Ukrainian with summary in English]. Ukr. fiz. zhur. Supplement to 3 no.1:40-48 '58. (MIRA 11:6)

1.Institut fiziki AN URSR.
(Stilbene--Spectra) (Acetylene--Spectra)

Fugol', I.Ya.

51-4-3-8/30

AUTHORS: Prikhot'ko, A.F. and Fugol', I. Ya.

TITLE: Luminescence of Crystalline Anthracene at T = 20.4°K. (Lyuminestsentsiya kristallicheskogo antratsena pri T = 20.4°K.)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol.IV, Nr.3, pp.335-343 (USSR)

ABSTRACT: Over 30 samples of anthracene crystal plates of various thicknesses (from tenths of a micron to several mm) were studied. Thicker plates were cut from a large monocrystal; thin crystals were obtained by evaporation. To avoid the effects of thermal stresses which occur on cooling of anthracene crystals attached to quartz bases, only the crystals of thickness greater than 1 μ were used to study the luminescence spectra. To find the effect of the state of the surface on luminescence, samples with damaged surfaces (cracked, bent, etc.) were studied as a special group. Measurements were made at 20.4°K in a metal cryostat with quartz windows (Ref.5). The luminescence spectra were recorded both with the exciting light incident at an angle to the sample and after "transmission" through the sample. In the first

Card 1/4

Luminescence of Crystalline Anthracene at T = 20.4°K.

case luminescence was excited with light of about 3670 Å. For obtaining luminescence by "transmission" a tungsten lamp was used. A Glan-Thomson prism was used to separate out the components of luminescence parallel ("b" component) and normal ("a" component) to the monoclinic b-axis of the crystal. The luminescence spectra were recorded by means of an ISP-22 spectrograph. The authors observed also the long-wavelength absorption by anthracene at 20.4°K. Frequencies of the absorption lines are given in Table 1, which includes the results obtained at 20.4°K by Obreimov and Prikhot'ko (Ref.6) and by Craig and Hobbins (Ref.7), as well as Sidman's (Ref.3) results obtained at 4°K. Large differences between the results obtained by the various authors can be seen in Table 1. The luminescence spectrum of anthracene at 20.4°K consists of narrow bands which are practically lines. The frequencies of the most intense lines are given in Table 2. Fig.1 gives the distribution of intensity in the anthracene luminescence spectrum at

Card 2/4 293°K (curve 1) and at 20.4°K (curve 2). It was found

Luminescence of Crystalline Anthracene at T = 20.4°K.

that the intensity of luminescence in the "b" direction is greater than in the "a" direction and the ratio of the intensities of various bands in the two components of the spectrum is not the same (see Fig.2). The authors found considerable variations in luminescence of crystalline anthracene samples which were held in the same way and had no visible surface damage (Fig.3 and Table 3). In thick samples a more complete set of luminescence lines was observed than in thin samples. The luminescence spectra of samples with damaged surfaces are shown in Fig.4. Samples with cracks of several microns thickness had lines which were more diffuse than all samples with undamaged surface. The observed variations in luminescence are ascribed to variations in local levels which are formed in crystals due to various lattice defects (vacancies, interstitial molecules, etc.) and which are responsible for luminescence. These defects can behave like impurity centres. It is considered unlikely that the observed variations are due to uncontrolled impurities in anthracene. There are 4 figures, 3 tables and 12

51-4-3-8/30

Luminescence of Crystalline Anthracene at T = 20.4°K.

references, of which 7 are Soviet, 4 American and 1 French.

ASSOCIATION: Institute of Physics, Academy of Sciences of the Ukrainian SSR. (Institut fiziki AN USSR.)

SUBMITTED: May 29, 1957.

v. 1. Anthracene crystals---Luminescence

Card 4/4

SOV/51-5-5-13/23

AUTHORS: Prikhot'ko A.F. and Fugol', I.Ya.

TITLE: Absorption and Luminescence of Phenanthrene Crystals at 20°K. (Pogloshcheniye i lyuminestsentsiya kristallov fenantrena pri 20°K,

PERIODICAL: Optika i Spektroskopiya, 1958, Vol 5, Nr 5, pp 582-589 (USSR)

ABSTRACT: The authors obtained absorption and luminescence spectra of phenanthrene at 20°K. They used a quartz spectrograph of high dispersion (Hilger-E_1). The luminescence spectrum was obtained on that side of the crystal which was excited with 3100 Å from a mercury lamp. The absorption coefficients were measured by photographic photometry for two directions of polarization: parallel (direction b) and at right-angles (direction a) to the monoclinic b-axis. The absorption spectra of phenanthrene crystals from 0.2 to 12 μ thick were measured in the same two directions. Phenanthrene crystals which absorb weakly in the first electron transition (28000-33000 cm^{-1}) exhibit an absorption spectrum which consists of narrow bands. In 0.5-0.3 μ thick crystals the absorption spectrum is very simple (Fig 1). With increase of crystal thickness the spectrum becomes more complex, as shown in Fig 2

Card 1/3

Absorption and Luminescence of Phenanthrene Crystals at 20°K

which gives the spectrum of a 2.5 μ thick crystal. In Figs 1 and 2 the spectra marked "a" represent absorption with the E vector parallel to the b-axis, and the spectra marked "b" represent absorption with the E vector normal to the b-axis. Fig 3 gives the absorption curves for phenanthrene at 20°K; the continuous line represents the results for direction b and the dashed line represents the a-direction spectrum. Table 1 gives the absorption spectrum of phenanthrene in the region 28000-33000 cm^{-1}; the first two columns give the absorption coefficients, the third column gives the wave-number in cm^{-1}, the fourth column gives the difference between the wave-number of a particular band and the 28610 cm^{-1} band. For the a- and b-directions in phenanthrene the following oscillator strengths were obtained for the first electron transition at 20°K: $f_a = 0.0033$, $f_b = 0.008$. Phenanthrene crystals luminesce strongly when illuminated with light of wavelengths in the absorption region. Most of this luminescence is due to anthracene which is present as an impurity. When the anthracene concentration is less than 0.01% the anthracene emission disappears. The intrinsic luminescence of phenanthrene, which is then observed, consists of wide and partially diffuse bands. All the measured fluorescence bands

Absorption and Luminescence of Phenanthrene Crystals at 20°K

and their interpretation are given in Table 2. The first band of the luminescence series coincides with one of the weak absorption bands in the long-wavelength region, as shown in Fig 4. Phenanthrene does not exhibit the same randomness in its luminescence spectrum as that shown by anthracene and cadmium sulphide. Nevertheless the similarity between the absorption and luminescence spectrum of phenanthrene suggests that luminescence of phenanthrene has the same origin as that of anthracene (Ref 1) and cadmium sulphide (Ref 10), i.e. it is due to lattice defects. There are 4 figures, 2 tables and 10 references, 8 of which are Soviet and 2 American.

SUBMITTED: December 9, 1957

Card 3/3 1. Phenanthrene crystals--Spectra 2. Phenanthrene crystals --Luminescence 3. Phenanthrene crystals--Lattices

FUGOL', I. Ya., Candidate Phys-Math Sci (diss) -- "Investigation of the luminescence of certain molecular crystals at low temperatures". Kiev, 1959. 14 pp (Acad Sci Ukr SSR, Inst of Phys), 100 copies (KL, No 26, 1959, 123)

24(4), 24(2) SOV/51-7-1-6/27

AUTHORS: Prikhot'ko, A.F. and Fugol', I.Ya.

TITLE: Luminescence of Stilbene Crystals at 20°K (Lyuminestsentsiya kristallov stil'bena pri 20°K)

PERIODICAL: Optika i spektroskopiya, 1959, Vol 7, Nr 1, pp 35-43 (USSR)

ABSTRACT: The authors studied luminescence and absorption of 0.5 μ—2 mm thick stilbene monocrystals prepared by sublimation or grown from melt. Luminescence was excited by means of wavelengths near 3100 Å from a mercury lamp SVDSh-1000. The luminescence spectra were obtained by photographic photometry. The absorption spectra were recorded using a hydrogen lamp and two quartz spectrographs of high and medium dispersion: Hilger E_1 and ISP-22. The iron spectrum was used for calibration. All spectra were recorded at 20°K and some of them were also recorded at 293°K (room temperature). The luminescence spectrum was found to range from 29200 cm^{-1} to the visible region. At 293°K it consists of several wide bands which split into narrow bands at 20°K (these narrow bands will be called "lines"). The strongest luminescence lines are shown in Fig 2; their number and intensities vary from sample to sample (Fig 3). Some of the luminescence lines, such as those at 29142, 29035, 28902 cm^{-1} and

Card 1/3

other weaker lines, coincide with certain absorption lines. The intensities, widths and polarizations of absorption lines also vary from sample to sample. In thick crystals (100-300 μ) a new series of absorption lines appears (Fig 4 shows the absorption spectrum of a stilbene crystal 150 μ thick). The absorption lines, the fundamental absorption edge and the luminescence lines of stilbene at 20°K are shown schematically in Fig 5. The luminescence and absorption spectra were found to be strongly affected by annealing at either the liquid-nitrogen temperature (77°K) or the sublimation temperature (~70°C). The results obtained show that luminescence of stilbene is closely related to structural defects such as vacancies, molecules between lattice sites, deformed molecules, etc., which are produced during crystal growth. This close relationship with the structural defects is deduced from the variation of the luminescence spectrum from sample to sample and the large number of closely spaced resonance lines which occur at the heads of luminescence series. Each of such lines is due

to some structural defect which produces a local energy level close to the corresponding level of the perfect lattice. The strong effect of annealing is a further confirmation of the suggested relationship. Each structural defect serves both as an absorption centre and a luminescence centre. These centres are discussed in greater detail elsewhere (Ref 11). There are 6 figures, 2 tables and 11 references, 9 of which are Soviet, 1 English and 1 German.

SUBMITTED: September 15, 1958

ACCESSION NR: AP4039701 S/0051/64/016/006/0941/0948

AUTHORS: Fugol', I. Ya.; Pakhomov, P. L.; Reznikov, G. P.

TITLE: Spectroscopic investigation of a pulsed high-frequency discharge in helium

SOURCE: Optika i spektroskopiya, v. 16, no. 6, 1964, 941-948

TOPIC TAGS: discharge plasma, plasma decay, spectral line intensity, atomic spectroscopy, recombination, metastable state

ABSTRACT: The kinetics of the excitation and breakdown of a helium plasma was investigated under conditions of a pulsed electrodeless high-frequency discharge in the pressure interval 0.1--40 mm Hg, at room temperature (290K) and at the temperature of liquid nitrogen (77K), and at different values of the power. The experimental setup and technique are described. The decrease in line intensity during the time of the high-frequency pulse at 290K is attributed to atomic

Card 1/3

ACCESSION NR: AP4039701

recombination. As the temperature decreases to 77K, de-excitation peculiarities are observed along with intense afterglow in several lines of the HeI spectrum. This afterglow is attributed to dissociative recombination of the molecular ions, the production of which is appreciably influenced by the metastable 2^3S helium atoms. The time constants of the glow of a helium gas-discharge plasma are determined. A more complete explanation of the recombination mechanism at low temperatures can be made following simultaneous measurements of the concentrations of the electrons and of the metastable 2^3S helium atoms in the discharge. Orig. art. has: 8 figures and 6 formulas.

ASSOCIATION: None

SUBMITTED: 02Aug63 / DATE ACQ: 24Jun64 ENCL: 01

SUB CODE: NP, OP NR REF SOV: 004 OTHER: 008

Card 2/3

FUGOL', I.Ya.; PAKHOMOV, P.L.; REZNIKOV, G.P.

Spectroscopic study of an impulsive high-frequency discharge in helium. Opt. i spektr. 16 no.6:941-948 Je '64.
(MIRA 17:9)

L 16391-65 EWA(k)/EWT(l)/EWG(k)/EWT(m)/EPA(sp)-2/EPF(c)/EEC(k)-2/EPA(w)-2/EEC(t)/T/EWP(t)/EEC(b)-2/EWP(k)/EWP(b)/EWA(m)-2 Po-4/P2-6/Pab-10/Pf-4/Pr-4/P1-4/P1-4
ACCESSION NR: AP4049129 IJP(c)/SSD(b) WG/S/0020/64/159/001/0057/0059
JHB/JD/AT

AUTHORS: Pakhomov, P. L.; Fugol', I. Ya.

TITLE: Pair collisions of metastable helium atoms in a plasma

SOURCE: AN SSSR. Doklady*, v. 159, no. 1, 1964, 57-59

TOPIC TAGS: helium atom, metastable state, pair collision, plasma afterglow quenching.

ABSTRACT: Pair collision of metastable 2^3S helium atoms is one of three factors governing the afterglow of a helium plasma following termination of the discharge, but has been least investigated, in spite of its being the dominant factor in the 5--15 mm Hg pressure range. The authors investigated the time dependence of the metastable atom concentration after termination of a high-frequency discharge pulse at 77K, at pressures from 6 to 74 mm. The metastable atom concentration was measured by means of the absorption of the

Card 1/2

L 16391-65
ACCESSION NR: AP4049129 2

3889 Å line in a discharge tune 20 mm in diameter and 150 mm long. The details of the experiments are described elsewhere (the authors with G. P. Reznikov, Opt. i spektr. v. 16, no. 6, 25, 1964). The reciprocal of the concentration plotted against the time is a straight line, with a slope that increases with the pressure. Comparison with experiments made by A. V. Phelps and S. C. Browne (Phys. Rev. v. 86, 102, 1952) at 300K shows that the rate of the process decreases to one-half on going from 300 to 77K, probably because of the decrease in the average particle velocity. This report was presented by I. V. Obreimov. Orig. art. has: 2 figures and 7 formulas.

ASSOCIATION: Fiziko-tekhnicheskiy institut nizkikh temperatur Akademii nauk SSSR (Physicotechnical Institute of Low Temperatures, Academy of Sciences SSSR)

SUBMITTED: 06May64 ENCL: 00

SUB CODE: ME, NP NR REF SOV: 002 OTHER: 005

Card 2/2

L 40373-66 EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) AT JD

ACC NR: AP6025263 SOURCE CODE: UR/0057/66/036/007/1312/1314

66
65
03
27

AUTHOR: Pakhomov,P.L.; Fugol', I. Ya.; Shevchenko, Yu.F.

ORG: none

TITLE: Temperature dependence of the diffusion cross section of metastable helium atoms in helium

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 7, 1312-1314

TOPIC TAGS: helium, metastable state, gas diffusion, plasma diffusion, particle cross section

ABSTRACT: The authors have measured the diffusion cross section (defined as v/3ND, where v is the mean atomic velocity, N is the gas density, and D is the diffusion constant) of metastable (2^3S_1) helium atoms in helium gas at 77, 64, and 20° K by a plasma technique that has been described in detail by I.Ya.Fugol', P.L.Pakhomov, and G.P. Reznikov (Opt. i spektr., 16, 941, 1964). Plasmas were produced by 40 MHz discharges in a quartz tube containing helium at pressures (reduced to room temperature) ranging from 0.1 to 1.0 mm Hg and their decay was followed for up to 1.5 millisec by recording the absorption of the 3889 Å $2^3S - 3^3P$ helium line. The diffusion constants, calculated from the exponential decay curves on the assumption that the plasmas decayed entirely by diffusion to the wall of the vessel, were inversely proportional to the pressure within the 15% experimental error. The measured diffusion cross sections

UDC: 533.9.07

Card 1/2

L 40373-66

ACC NR: AP6025263

were in good agreement with the theory of R.A.Buckingham and A.Dalgarno (Proc.Roy. Soc.,A213, 506, 1952). The diffusion cross section at 77° K (approximately 4.5 x 10^{-15} cm^2) was 50% lower than that found by A.V.Phelps and J.P.Molnar (Phys.Rev.,89, 1204, 1953). At 20° K the diffusion cross section was 5 x 10^{-15} cm^2. Orig. art. has: 5 formulas and 3 figures. [15]

SUB CODE: 20 SUBM DATE: 02Aug65 ORIG.REF: 001 OTH REF: 005

ATD PRESS: 5053

Card 2/2 MLP

ACCESSION NR: AF5005914 S/0185/65/010/002/0187/0195

AUTHOR: Zaytsev, V. S.; Fuhol', I. Ya. (Fugol', I. Ya.); Khrusch, B. I.

TITLE: Features of spectral research on condensed gases in the region of vacuum ultraviolet

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 10, no. 2, 1965, 187-195

TOPIC TAGS: ultraviolet, thin film, low temperature research, spectral research, condensed gas

ABSTRACT: The authors describe spectral research methods for thin layers (10-... of condensed gases in the region of vacuum ultraviolet, using a high re... spectrograph, and discuss the features of low-temperature procedures as ... the construction of intense light sources for the vacuum ultraviolet re... A diagram of the experimental set-up is shown in Fig. 1 of the Enclosure, ... metallic cryostat for the solidified gas layer is described in detail. ... were recorded on high-sensitivity film sensitized in sodium salicy... The sources recommended for use in ultraviolet investigations are: hydrogen ..., pulsed sources of capillary discharges and of "sliding" sparks, and the ...

Card 1/3

L 38097-65

ACCESSION NR: AP5005914

timuous emission spectrum of noble gases. The features and the theory of each source are described. The construction of a helium lamp built by the authors is described Orig. art. has: 4 figures.

ASSOCIATION: Fizyko-tekhnichnyy instytut nyz'kykh temperatur AN URSR , Khar'kov (Physicotechnical Institute of Low Temperatures, AN UkrSSR)

SUBMITTED: 06May64 ENCL: 01 SUB CODE: OP

NR REF SOV: 004 OTHER: 021

Card 2/3

L 15556-66 EWT(1)/EWT(m)/ETC(F)/EPF(n)-2/EWG(m)/EWP(t)/EWP(b) IJP(c) JD/AT
ACC NR: AP6004401 SOURCE CODE: UR/0051/66/020/001/0010/0020

AUTHOR: Pakhomov, P. L.; Reznikov, G. P.; Fugol', I. Ya.

ORG: none

TITLE: Helium afterglow in a pulsed hf discharge plasma at 77°K

SOURCE: Optika i spektroskopiya, v. 20, no. 1, 1966, 10-20

TOPIC TAGS: discharge plasma, helium plasma, luminescence

ABSTRACT: The authors determine the rates of fundamental afterglow processes under high frequency pulsed discharge conditions at a temperature of 77°K and explain the mechanism responsible for the intense afterglow in a helium hf discharge plasma at a low temperature. The experimental equipment is described. The plasma radiation and concentration of metastable He(2^3S) atoms in the afterglow were measured. It is shown that the curve for concentration of metastable atoms as a function of time at pressures of 8-60 mm Hg is a close approximation of a hyperbola. The recombination coefficient is a linear function of pressure, which indicates that collisions between metastable atoms take place with the participation of helium atoms in the normal state. Experimental measurements show that the triple-collision process

Card 1/2 UDC: 533.9

L 15556-66

ACC NR: AP6004401

$$He^*(2^3S) + He^*(2^3S) + He(1^1S) \rightarrow \ldots$$

is most probable at pressures above 5 mm Hg. It is shown that dissociative recombination is the fundamental process for deionization of charged particles in a high frequency pulsed discharge plasma. Theoretical considerations indicate that the basic reactions responsible for intense atomic afterglow are:

$$He^*(2^3S) + He^*(2^3S) + He(1^1S) \rightarrow He_2^+ + He(1^1S) + e. \qquad (I)$$

$$He_2^+ + e \rightarrow He' + He \rightarrow 2He + h\nu. \qquad (II)$$

A differential equation is given for the variation in ion (or electron) concentration n in the afterglow of a helium plasma in conformity with these two processes. The two proposed mechanisms are used as the basis for a theory explaining the fundamental kinetics of line luminescence and afterglow. The recombination reaction is confirmed by the experimentally observed distribution of excited atoms with respect to levels in the afterglow. In conclusion we are sincerely grateful to I. V. Obreimov for valuable consultation and interest in the work and also to A. M. Ratner for useful discussions. Orig. art. has: 5 figures, 35 formulas.

SUB CODE: 20/ SUBM DATE: 13Nov64/ ORIG REF: 003/ OTH REF: 007

Card 2/2

L 45934-66 EWT(m)/EWP(j) RM

ACC NR: AR6023270 SOURCE CODE: UR/0058/66/000/003/D058/D058

AUTHOR: Fugol', I. Ya.; Khrushch, B. I.; Zaytsev, V. S.

TITLE: Procedure for spectral investigations of condensed gases in the region of the vacuum ultraviolet at low temperatures (77K)

SOURCE: Ref zh. Fizika, Abs. 3D489

REF. SOURCE: Tr. Komis. po spektroskopii. AN SSSR, t. 3, vyp. 1, 1964, 384-392

TOPIC TAGS: uv spectrum, absorption spectrum, gas discharge spectroscopy, low temperature research, methane, xenon

ABSTRACT: A high resolution procedure is developed for the investigation of the spectra of frozen gases. Powerful pulsed sources of the continuous spectrum have been developed, of the Lyman discharge type, and also sources of intense line spectra, namely a condensed spark discharge or a gliding spark. A special cryostat was constructed for low-temperature measurement in a vacuum spectrograph. In the 2,000 -- 1200 Å region at 77 K, the spectra of thin films of methane and xenon, deposited on a

Card 1/2

L 45934-66

ACC NR: AR6023270

substrate, were investigated. The results are compared with the absorption of the gases in the region of the vacuum ultraviolet. [Translation of abstract]

SUB CODE: 20

Card 2/2 blg

L 08358-67 EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) JD/AT

ACC NR: AR6028133 SOURCE CODE: UR/0058/66/000/005/D056/D056

63

AUTHOR: Pakhomov, P. L.; Fugol', I. Ya.

TITLE: Spectroscopic investigation of a decaying helium plasma at 77 and 20K

SOURCE: Ref. zh. Fizika, Abs. 5D431

REF. SOURCE: Fiz.-tekhn. in-t nizk. temperatur AN UkrSSR. Khar'kov, 1965, 53 str.

TOPIC TAGS: helium plasma, plasma decay, metastable state, discharge plasma, atomic spectrum, spectral line

ABSTRACT: The processes of destruction of metastable He atoms in a decaying plasma of a pulsed high-frequency discharge at 77 and 20K and the kinetics of the de-excitation of the He lines are investigated. An intense afterglow of a number of lines of atomic helium was observed at pressures 8 -- 40 mm Hg. The theory of the afterglow is based on taking simultaneous account of two processes: formation of molecular helium ions and electrons as a result of the destruction of the metastable atoms, and subsequent recombination of the molecular ions and electrons. The rates of the main processes of destruction of metastable atoms and the coefficients of recombination at low temperatures are determined. [Translation of abstract]

SUB CODE: 20

Card 1/1 nst

ACC NR: AP7002420 SOURCE CODE: UR/0051/66/021/006/0741/0748

AUTHOR: Fugol', I. Ya.; Pakhomov, P. L.; Shevchenko, Yu. P.

ORG: none

TITLE: Spectroscopic investigation of decaying helium plasma at 20K

SOURCE: Optika i spektroskopiya, v. 21, no. 6, 1966, 741-748

TOPIC TAGS: helium plasma, plasma decay, plasma diffusion, metastable state

ABSTRACT:

The helium plasma was excited in a quartz tube submerged in liquid hydrogen (20.4K). The luminescence was recorded through the liquid hydrogen. The helium pressure was varied from 0.1 to 80 mm Hg. The concentration of metastable atoms in the afterglow was determined by the absorption of the 3889 Å line from an external source. The rate of pair collision, on which depends the decay of metastable atoms and the diffusion coefficent D at different pressure p of metastable atoms, was determined. The average value for Dp at 20K is $(Dp)_{aver} = 95$ $cm^2 \cdot sec^{-1} \cdot mm$ Hg. A comparison of results shows that below 77K the variation of the diffusion coefficient does not follow the classical dependence $Dp \sim \sqrt{T}$, a fact which is possibly linked with the effect of the quantum features of the diffusion process in helium at low

Card 1/2

UDC: 533.9 : 546.291

Card 2/2

FUGOL', O.M.

Significance of some characteristics of the type of higher nervous activity in regulation of the trophic phase of the salivation reflex. Fiziol.zhur.[Ukr.] 9 no.1:27-33 Ja-F '63.
(MIRA 18:5)

1. Kafedra normal'noy fiziologii Khar'kovskogo meditsinskogo stomatologicheskogo instituta.

PUTILIN, N.I., prof., otv. red.; ALEKSENTSEVA, E.S., prof., red.; MAKARCHENKO, A.F., akademik, red.; PRIKHOD'KOVA, Ye.K., prof., red.; SKLYAROV, Ya.P., prof., red.; TORSKAYA, I.V., kand. biol. nauk, red.; FEL'DMAN, A.B., prof., red.; FILIPPOVA, A.G., kand. biol. nauk, red.; FUGOL', O.M., prof., red.; YANKOVSKAYA, Z.B., red. izd-va; MATVEYCHUK, A.A., tekhn. red.

[Selected works]Izbrannye trudy. Kiev, Izd-vo Akad. nauk USSR, 1962. 454 p. (MIRA 16:3)

1. Akademiya nauk Ukr. SSSR (for Makarchenko).
(PHYSIOLOGY)

Fugzan, M.D.
USSR/Mining

FD – 1596

Card 1/1 : Pub. 41-17/18

Author : Baron, L, I. and Fugzan, M. D., Moscow

Periodical : Izv. AN SSSR. Otd. tekh. nauk 8, 154-158, Aug 1954

Title : On the value of the coefficient of break-up of ore in a block during large-scale cavings

Abstract : States that figures available in mining-engineering reference books on the coefficient of break-up (ratio of volumetric weight of untouched ore to volumetric weight of broken-up ore) or rocks characteristic of mineral deposits are approximate values which are useful for loading of transport vessels, etc., but are exaggerated for conditions of break-up of ore in large-scale block-caving. In support of above contention, analyzed data obtained from large-scale underground blasting at apatite mine imeni S. M. Kirov during first half of 1954. Tables. Two references.

Institution :

Submitted :

FUGZAN, M. D.

FUGZAN, M. D.: "An analysis of ore removal in a system of ore-loosening by stories with removal by fields"(Usine the apatite mine imeni S. M. Kirov as an example). Moscow, 1955. Acad Sci USSR. Inst of Mining. (Dissertation for the Degree of Candidate of TECHNICAL Sciences)

SO: Knizhnaya Letopis' No. 51, 10 December 1955

BARON, L.I., doktor tekhnicheskikh nauk; FUGZAN, M.D., kandidat tekhnicheskikh nauk.

Effect of increasing specified ore size on the labor productivity of ore output. Gor.zhur.no.3:18-22 Mr '56. (MLRA 9:7)
(Mining engineering) (Ore handling)

BARON, L.I., doktor tekhnicheskikh nauk; FUGZAN, M.D., kandidat tekhnicheskikh nauk.

Steady output of ore under actual working conditions. Khim.prom.no.4: 197-200 Je '56. (Mining engineering) (MLRA 9:10)

FUGZAN, M.D.

Analysis of basic breaking indices at the S.M. Kirov apatite mine.
Izv.Kar. i Kol'.fil.AN SSSR no.3:116-122 '58. (MIRA 11:12)

1. Gruppa gornogo dela Kol'skogo filiala AN SSSR.
(Apatite) (Mining engineering)

FUGZAN, M.D.; BARON, L.I.; MARKENZON, E.I.

Experimental study of shallow hammer drilling at the Kirov apatite mine. Izv.Kar.i Kol.fil.AN SSSR no.5:130-139 '58.
(MIRA 12:9)

1. Institut khimii i tekhnologii redkikh elementov i mineral'nogo syr'ya Kol'skogo filiala AN SSSR.
(Boring)

FUGZAN, M. D., Stalin Prize Laureate, and BARON, L. I., DR. Tech. Sci.

"A Study of the Relationship between the Angle of Natural Repose of Broken Ore and Its Size," in book Problems in the Exploitation of Mineral Ore Deposits, Moscow, Izd-vo. AN SSSR, 1958, 251pp.

It has been observed that the angle of natural repose of ore, an important factor which affects various mining designs, decreases with an increase in the size of broken or ore. The authors discuss recent analytical and numerical data on the subject

with L. I. Baron, "Tests Demonstrating the effect of the Nonuniformity of Ore Discharge, pp. 166 of above book.

To insure uniformity of ore loading in mining apatite by shrinkage and block-carving, a worked out block filled with granulated ore and small wooden cubes (1 cc in size) was used as a model. The passage of such wooden models provides an idea of the pattern of ore passage.

BARON, L.I.; VORONYUK, A.S.; SIMONYAN, Ye.A.; FUGZAN, M.D.

Computed values for the physicomechanical characteristics of mixtures of pieces of rock having various hardnesses. Izv. AN Kazakh. SSR. Ser. gor. dela no.1:111-118 '58.

(MIRA 16:5)

(Rocks—Testing)

FUGZAN, M.D.

Scientific anniversary session of the Kola Branch of the Academy of Sciences of the U.S.S.R. Izv. Kar. i Kol'. fil. AN SSSR no.2:181-183 '58. (MIRA 11:9)

(Kola Peninsula--Research)

BARON, Lazar' Izrailevich, prof., doktor tekhn.nauk; FUGZAN, Mark Davidovich, kand.tekhn.nauk; BRONNIKOV, D.M., otv.red.; ARON, G.M., red.izd-va; ZENKEL', M.Ye., tekhn.red.

[Study of ore delivery in panel mining systems with forced sublevel caving] Issledovanie vypuska rudy pri sisteme etazhnogo prinuditel'nogo obrusheniia s vyemkoi poliami. Moskva, Izd-vo Akad.nauk SSSR, 1959. 106 p. (MIRA 12:6)
(Mining engineering)

14(5) SOV/64-59-3-10/24

AUTHOR: Fugzan, M. D., Candidate of Technical Sciences

TITLE: Influence of Secondary Loosening on the Regularity of Separating Ore From Mined Blocks (Vliyaniye vtorichnogo razrykhleniya na ravnomernost' vypuska rudy iz obrushennykh blokov)

PERIODICAL: Khimicheskaya promyshlennost', 1959, Nr 3, pp 48 -52 (USSR)

ABSTRACT: In ore mining the density of the ore layer immediately adjacent to the mining area is reduced, this process is called secondary loosening (A). The latter depends on physical and mechanical properties of the mined ore, on the solidification of the block and on the inclination of the ore to stick together. The value of the loosening coefficient (LC) (i.e. the ratio between the ore density in the whole block and that of the loosened state) is changed by the influence of dynamic stress and vibrations. Mining methods with mass explosions where a strong dynamic stress occurs, have a great effect. This was observed in experiments in the apatit rudnik imeni S. M. Kirova (Apatite Mine imeni S. M. Kirov), and for (LC) a value of only 1.12 (Ref 3) was stated (according to publications the (LC) for crumbling rock is 1.4 - 1.8 (Ref 2)). The detailed data obtained in mass explosions in the mentioned mine in 1954-56 are given

Card 1/2

(Table 1). Experiments showed that the area of (L) is transferred to the medium which has been loosened more, not only in loose materials which stick together, but also in very loose material, broken and air dried apatite ore. These observations were made in model boxes with transparent front walls and imbeded marks (Fig 1). The (LC) amounted to 1.75, the granulation of the ore is given as well as the applied working method, with a diagram of the deviations of the (L) areas (Fig 2) and data on a successive regular and irregular separation of the ore on the test model (Table 2). It is recommended to carry out the ore separation in areas corresponding to the necessary front of the working appliances and of the reserve separation appliances, and also to carry out the ore separation in funnels bordering such areas which were mined before and therefore form a protective slope, and to carry out the separation on the whole area of the section, with a minimum degree of inequality. There are 3 figures, 2 tables, and 5 Soviet references.

BARON, L.I.; FUGZAN, M.D.; MARKENZON, E.I.

Comparative analysis of factors in experimental rotary and percussion drilling at the Kirov Apatite Mine. Izv.Kar.i Kol'.fil.AN SSSR no.4:124-134 '59. (MIRA 13:5)

1. Institut geologii Kol'skogo filiala AN SSSR.
(Boring)

BARON, L.I. (Moskva); KANTENZON, ...l. (Moskva); PUGZAL, ... (Moskva)

Energy capacity of diamond drilling in rocks of various hardness. Izv. AN SSSR. Otd. nauk. Met. i topl. no.1:175-180 Ja-F '61. (MIRA 14:2)

(Rock drills)

BARON, L.I., prof., doktor tekhn.nauk; FUGZAN, M.D., kand.tekhn.nauk; MARKENZON, E.I.

Study of dust formation during rock drilling. Bor'ba s sil. 5: 156-170 '62. (MIRA 16:5)

1. Institut gornogo dela imeni A.A.Skochinskogo (for Baron, Fugzan).
2. Kol'skiy filial AN SSSR imeni S.N.Kirova (for Markenzon).

(Boring) (Mine dusts)

BARON, L.I., prof., doktor tekhn.nauk; FUGZAN, M.D., kand.tekhn.nauk; MARKENZON, E.I., inzh.

Influence of the diameter of a bore hole on the formation of dust in rocks of various strength. Bezop. truda v prom. 5 no.8:18-20 Ag '61. (MIRA 14:8)

1. Institut gornogo dela im. A.A. Skochinskogo (for Baron, Fugzan).
2. Kol'skiy filial im. S.M. Kirova AN SSSR (for Markenzon).

(Mine dusts)